

### **AMENDMENTS TO THE SPECIFICATION**

Please amend the specification as identified below.

On page 3, lines 9-16:

To accomplish the above objects, according to the present invention, there is provided a growth method of nitride semiconductor layer comprising a first step for growing a first nitride semiconductor layer on an  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) layer, a second step for reducing the thickness of the first nitride semiconductor layer by growth interruption and a third step for growing a second nitride semiconductor layer having a band gap energy higher than that of the first nitride semiconductor layer on the first nitride semiconductor layer with the reduced thickness.

On page 3, lines 17-21:

Here, the  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) layer, the first nitride semiconductor layer, and the second nitride semiconductor layer may be doped with p-type or n-type impurities and the  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) layer and the second nitride semiconductor layer are formed of preferably GaN.

On page 3, line 22 to page 4, lines 1-11:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device comprising a substrate, at least one nitride semiconductor layer grown on the substrate and including an top layer of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ), a quantum

well layer grown on the top layer of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ), and an additional nitride semiconductor layer grown on the quantum well layer and having a band gap energy higher than that of the quantum well layer, in which the quantum well layer comprises an In-rich region, a first compositional grading region with In content increasing between the top layer of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) and the In-rich region, and a second compositional grading region with In content decreasing between the In-rich region and the additional nitride semiconductor layer.

On page 4, lines 12-14:

Here, the top layer of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ), the quantum well layer and the additional nitride semiconductor layer may be doped with p-type or n-type impurities.

On page 4, lines 15-22 to page 5, line 1:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device having a quantum well layer with a thickness of 2nm or less, in which the two-dimensional quantum well layer is formed of  $\text{In}_x\text{Ga}_{1-x}\text{N}$ , in which x is preferably 0.2 or more in the In-rich region of the two-dimensional quantum well layer. When the two-dimensional quantum well layer has a thickness of 2nm or more, it is not easy to adjust the emission wavelength into the UV region by the carrier confinement effect. Therefore, the two-dimensional quantum well layer has preferably a thickness of 2nm or less.

On page 5, lines 2-5:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device wherein the additional nitride semiconductor is made of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ). Of course, the additional nitride semiconductor layer may include In.

On page 5, lines 6-9:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device further comprising at least one barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) adjacent to the quantum well layer and having a band gap energy higher than that of the additional nitride semiconductor layer.

On page 5, lines 10-14:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device wherein the quantum well layer and the barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) are alternately laminated to form a multi-quantum well structure. Preferably the pairs of the quantum well and the barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) is 100 pairs or less.

On page 17, lines 11-22:

FIG. 12 is a view showing a light emitting device comprising a single quantum well structure according to the present invention. The light emitting device comprises a substrate 1, a buffer layer 2 grown on the substrate 1, an n-type contact layer 3 of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) grown on the buffer layer 2, a quantum well layer 110a according to the present

On page 5, lines 2-5:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device wherein the additional nitride semiconductor is made of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ). Of course, the additional nitride semiconductor layer may include In.

On page 5, lines 6-9:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device further comprising at least one barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) adjacent to the quantum well layer and having a band gap energy higher than that of the additional nitride semiconductor layer.

On page 5, lines 10-14:

Also, according to the present invention, there is provided a nitride semiconductor light emitting device wherein the quantum well layer and the barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) are alternately laminated to form a multi-quantum well structure. Preferably the pairs of the quantum well and the barrier layer of  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  ( $0 \leq y \leq 1$ ) is 100 pairs or less.

On page 17, lines 11-22:

FIG. 12 is a view showing a light emitting device comprising a single quantum well structure according to the present invention. The light emitting device comprises a substrate 1, a buffer layer 2 grown on the substrate 1, an n-type contact layer 3 of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) grown on the buffer layer 2, a quantum well layer 110a according to the present

invention grown on the n-type contact layer 3, a capping layer 4 of p-type nitride semiconductor grown on the quantum well layer 110a, a p-type contact layer 5 of  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) grown on the capping layer 4, a light-transmittable electrode layer 6 and a p-type pad 7 formed on the p-type contact layer 5, and an n-type electrode 8 formed on the n-type contact layer 3. Here, the capping layer 4 and the p-type contact layer 5 may be formed of the same material.

On page 18, lines 5-11:

The light emitting device according to the present invention is not limited to the structures shown in FIG. 12 and FIG. 13. On the basis of the quantum well layer 110a, an  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  ( $0 \leq x \leq 1$ ,  $0 < y \leq 1$ ,  $0 < x+y \leq 1$ ) layer disposed under the quantum well layer 110a and a capping layer disposed over the quantum well layer 110a, the light emitting device can be expanded to any light emitting device (such as light emitting diode and laser diode) with any structure that is clear to the person in the art.